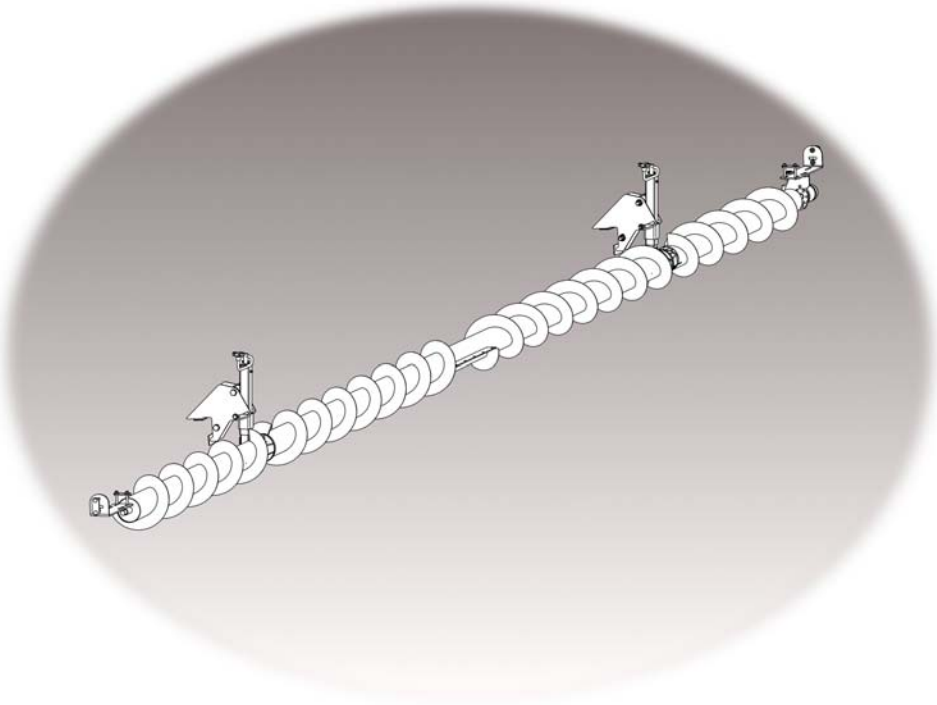
Honey Bee

U-Bolt Mount Production Header and Swather Cross-Auger Installation Manual



Contents.

Before You Begin.....3
General Instructions.....5
Cross Auger Assembly for a 25 Foot Machine.....7
Cross Auger Assembly for a 30-45 foot Machine.....11
Hydraulic Set Up When Using the Single Swath Option.....18
Hydraulic Set Up When Using the Double Swath Option.....19
Finishing the Installation.....21

This Page Is Intentionally Left Blank

Before You Begin

Unpack the unit, and check the parts supplied against the packing list enclosed. Familiarize yourself with the components, their locations once installed, and the sequence of assembly by referring to the contents of this manual. Pay special attention to the orientations of the bearings.

Smooth the shafts, and universal sleeves with emery cloth if needed, and test the fit of all bearings and universals before you attempt to install them. Use a good anti-seize compound on all connections involving the auger shafts. This will aid assembly, and will make disassembly much easier if repairs are required at a later date.
Protect the drapers with a sturdy surface, such as sheets of plywood to prevent damage to the drapers while positioning and lifting the auger sections.

Directions

For the purposes of this manual, "front" refers to the cutter-bar side of the header/swather, "back" refers to the side of the unit that attaches to the combine or windrower. "Left," and "right" are as viewed from the back of the unit facing the front.

Assembly

Lower the header to the ground or onto stable blocks, whichever will provide the most comfortable working height. Lower the reel to the stops, and move it fully forward. Remove the narrow sheet metal valance covers over the draper deck back panels. (See Illustration 39: Valance Cover, page 21.) This will expose the wiring and hydraulic plumbing channel.

If you elect to use a front-end loader or other mobile hoisting device to lift the auger into place, dismount the header from the combine to provide clear access to the rear of the header. (See the header operator's manual for instructions.)

If you do not have a hoisting device, set (2) 2x4's across the main tube of the header, and across two tine arms of the reel, and have nylon straps or small come-alongs to lift the augers into place. Move one 2x4 at a time, as necessary for each lift.

When installing the universal joints, it will be helpful to wedge the slot in the sleeve open slightly until it is in place.

WARNING	***Care must be used when working around pressurized hydraulic systems. All fittings must be securely connected before the windrower is started, and power is applied to the swather. Serious injury, and/or damage to equipment may result from poor connections.***

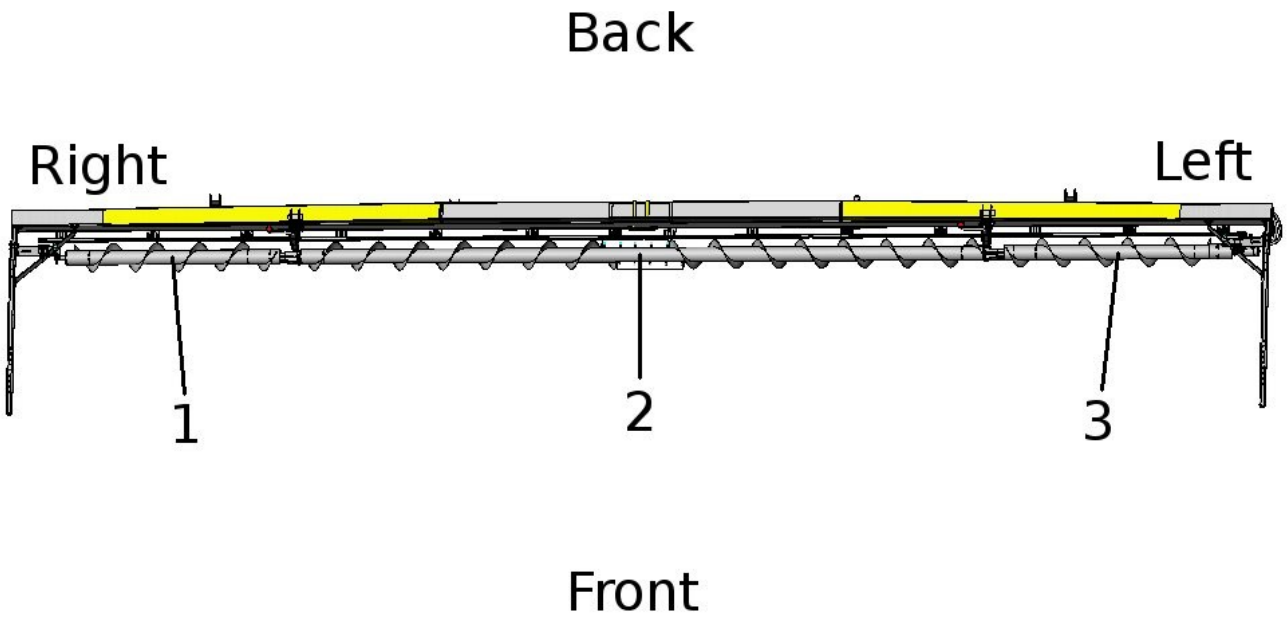


Illustration 1: Top-Down view of the cross auger assembly.

General Instructions.

1. Before you begin, prepare each auger drum by attaching the auger shaft key to both shafts of each drum.

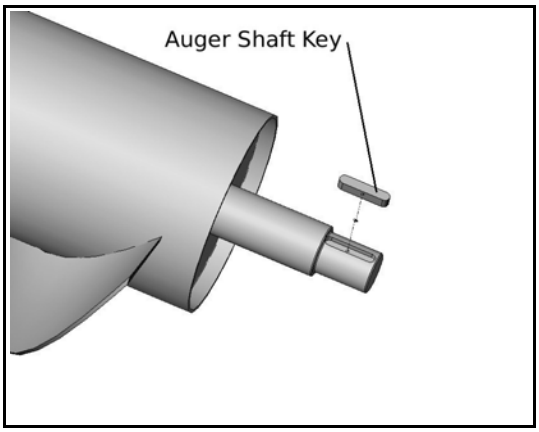


Illustration 2: Shaft Key

2. Find the exact center of the header frame and make a mark with a marker for future reference.

3. Along the top of the frame to the left, measure 121" from your center mark and make a reference mark. Repeat this step for the right side of the frame.

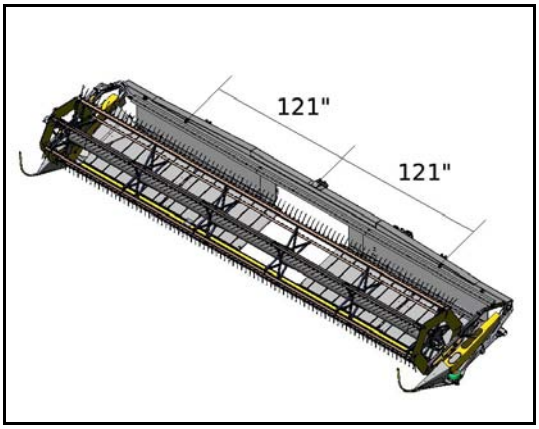


Illustration 3: Reference Marks

4. At each reference mark, measure 1" back from the front edge of the frame and affix the grip adhesive as shown in the illustration to the right.

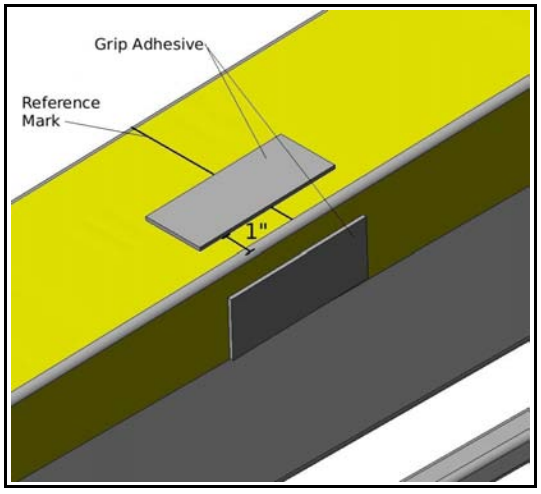


Illustration 4: Grip Adhesive

5. Loosely attach the mounting plates to the main frame of the header using the u-bolts, nuts and washers supplied. Do not tighten until you have connected and aligned the auger drums.

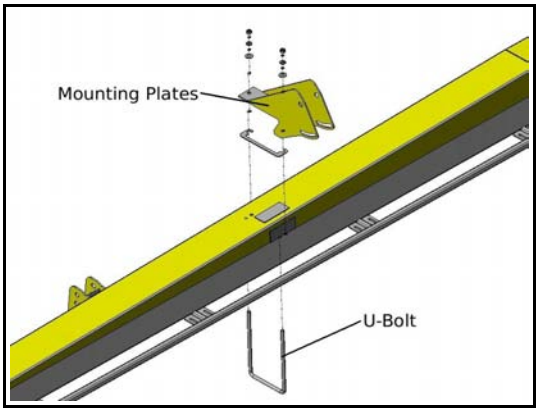


Illustration 5: Mounting Plate Installation

NOTE:	If you own a 25 foot machine, proceed to the ***Cross Auger Assembly for a 25 Foot Machine*** section on page 7. If you own a 30 – 45 foot machine, proceed to the ***Cross Auger Assembly for a 30-45 Foot Machine*** section on page 11.

Cross Auger Assembly for a 25 Foot Machine.

1. Assemble the auger jack for the right side of the cross auger, be sure to enclose the bearing within the bearing clamp.

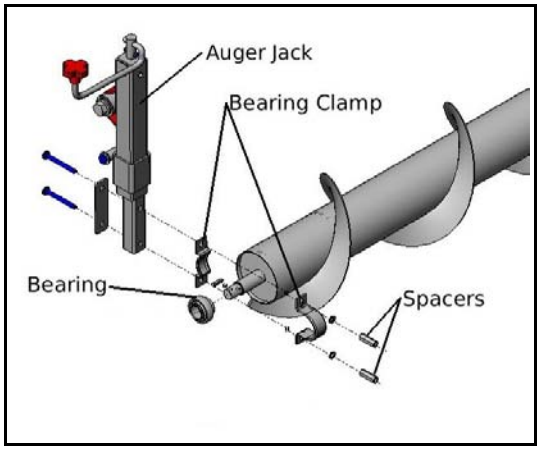


Illustration 6: Right Side Auger Jack

2. Assemble the auger jack for the left side of the cross auger. Ensure that the motor mount is properly secured to the rear side of the jack as shown.

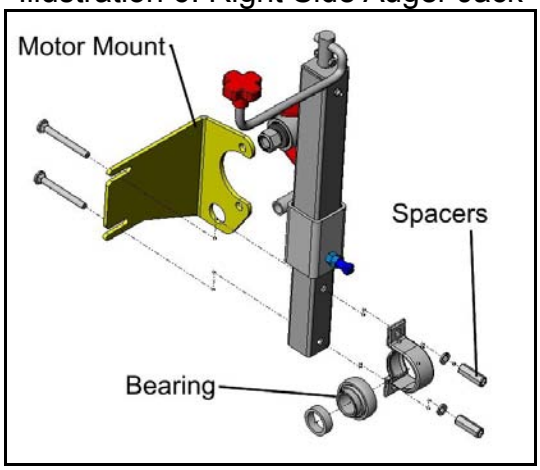


Illustration 7: Left Side Auger Jack

3. Slide both auger jacks onto each end of the center auger drum.

4. Lift the center auger drum and auger jacks into place. Connect both of the jacks to the mounting plates using the nuts, bolts and washers provided.

CAUTION	Care must be taken when lifting the auger drum as it can be quite heavy.

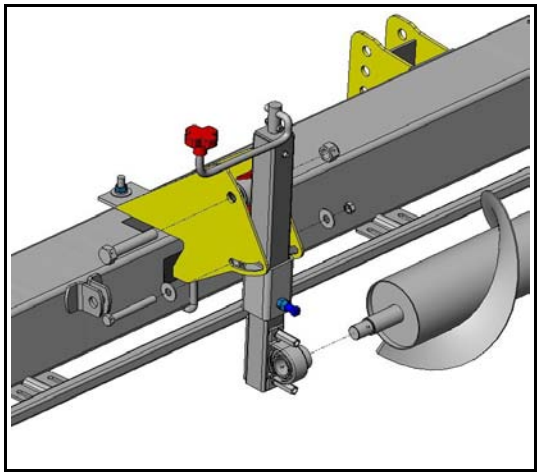


Illustration 8: Mounting the Auger Drum

5. Connect both center paddles to the center of the auger drum. The paddle on the front of the auger drum should be on the underside of the plate, while the paddle on the back side of the auger drum should be on top of the plate.

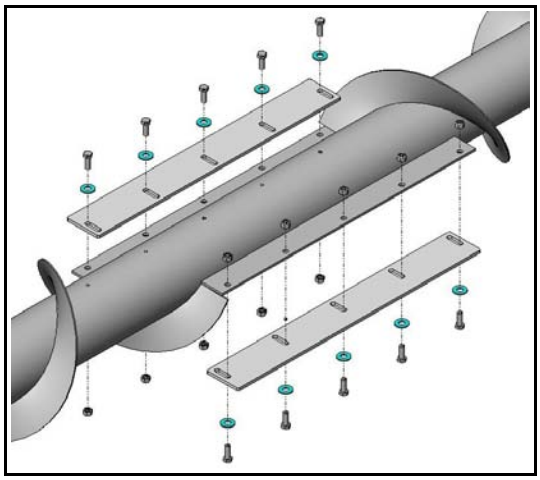


Illustration 9: Center Paddle Assembly

6. Connect the universal joint to the left end of the auger drum. Secure on the shaft using the set screw and bolt provided.

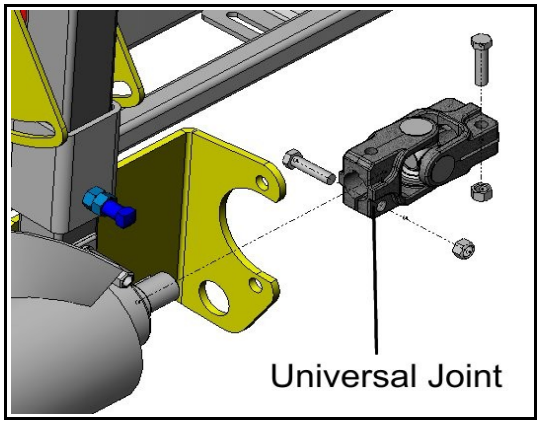


Illustration 10: Attaching the U-Joint

7. Assemble the motor and it's fittings.
   a. Grease the o-rings and place them in their sockets.
   b. Attach the Manifold Valve to the motor using the 4 cap screws.
   c. Connect the needle valve to the top of the manifold valve.
   d. Screw the 2 nipples into the back of the manifold valve.

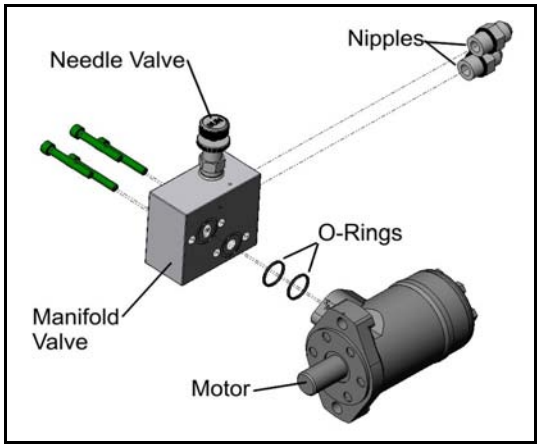


Illustration 11: Assembling the Motor

8. Connect the motor assembly to the universal joint and the motor mount using the nuts and bolts provided.

9. Secure the universal joint using the set screw and bolt provided.

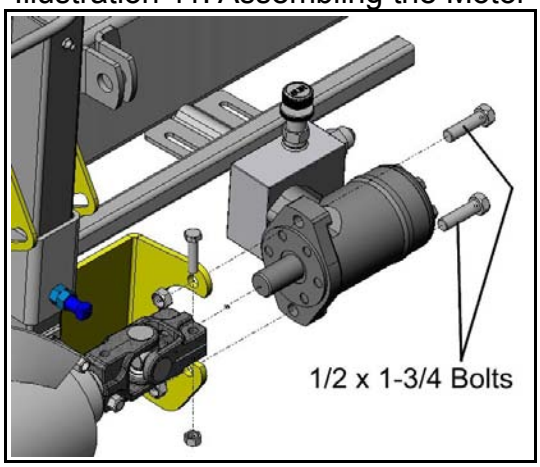


Illustration 12: Connecting Motor Assembly

10. Attach the stability arm to the motor mount and the deflector using the supplied fittings, as shown in the illustration below.

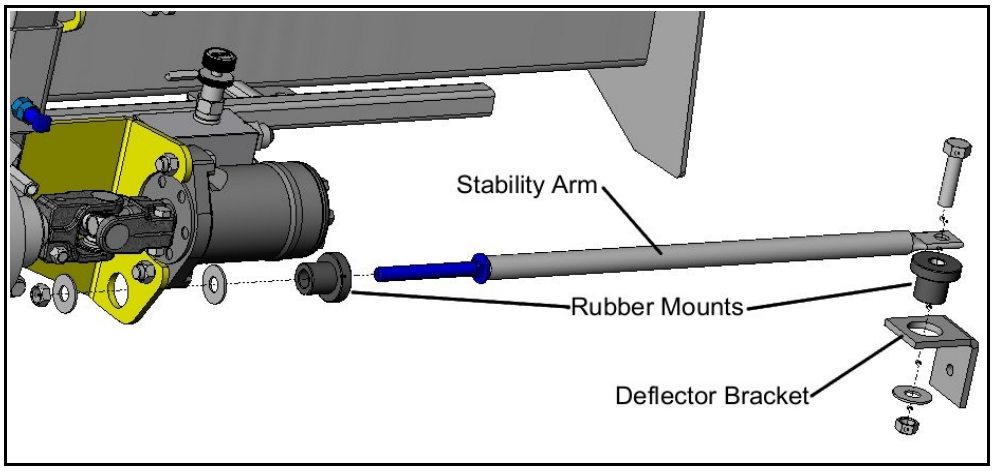


Illustration 13: Connecting the Stability Arm

11. Connect both of the Universal Joint Covers over each end of the auger drum using the washers and bolts provided. Make sure that you use washers on the inside and the outside of the cover as shown in the illustration to the right.

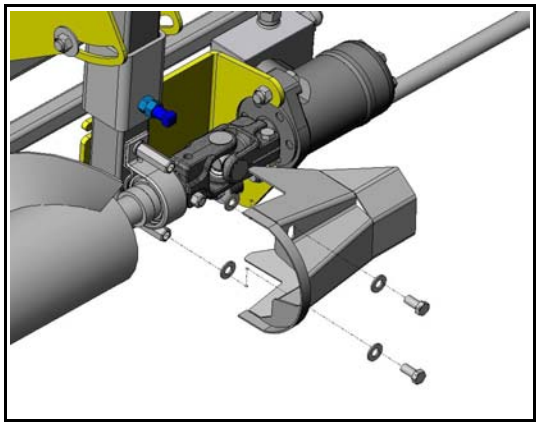


Illustration 14: Attaching the U-Joint Covers

NOTE:	If you own a single swath machine, proceed to the ***Hydraulic Set Up When Using the Single Swath Option*** on page 18. If you use the double swath option, proceed to the ***Hydraulic Set Up When Using the Double Swath Option*** on page 19.

Cross Auger Assembly for a 30-45 foot Machine.

1. Assemble both of the auger jacks, be sure to enclose the bearing within the bearing clamp.

2. Slide both auger jacks onto each end of the center auger drum (#2 in the top down view located on page 4).

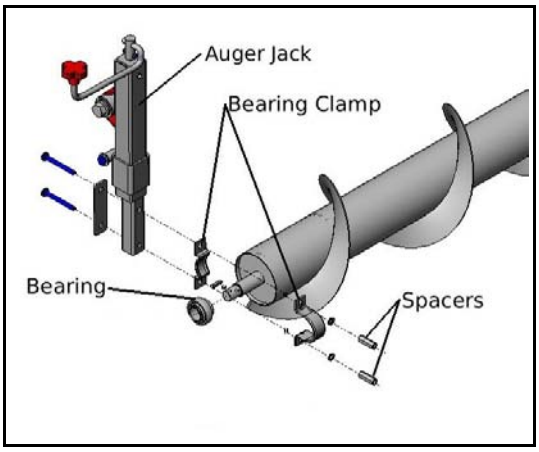


Illustration 15: Auger Jack Assembly

3. Lift the center auger drum and auger jacks into place. Connect both of the jacks to the mounting plates using the nuts, bolts and washers provided.

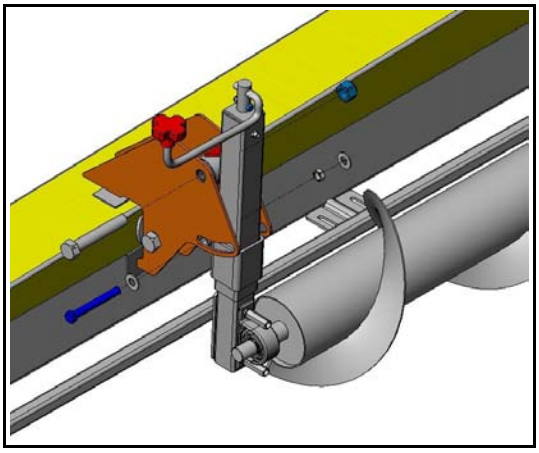


Illustration 16: Auger Jack Installation

CAUTION	Care must be taken when lifting the auger drum as it can be quite heavy.

4. Connect both center paddles to the center of the auger drum. The paddle on the front of the auger drum should be on the underside of the plate, while the paddle on the back side of the auger drum should be on top of the plate.

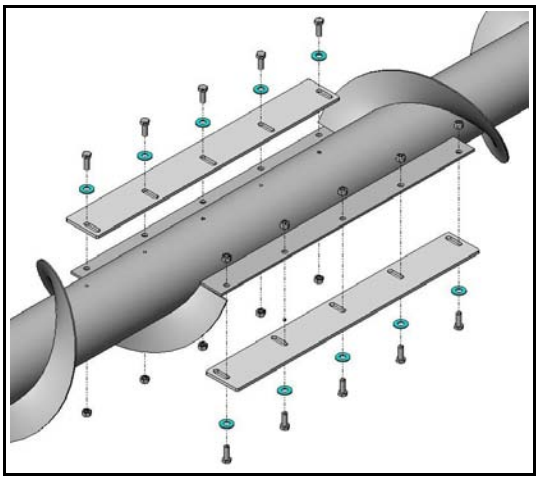


Illustration 17: Center Paddle Assembly

5. On the auger extension closest to the right side of the header (marked as #1 on the top down view), connect a universal joint to the shaft pointing towards the center of the machine.

6. Tighten the set screw and bolt on the portion of the universal joint that you just connected to the auger shaft.

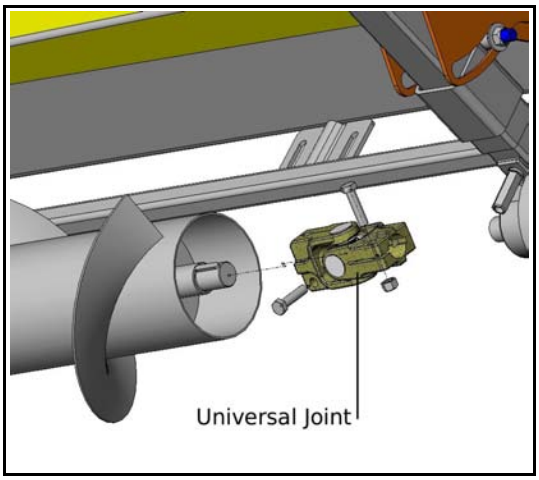


Illustration 18: U-Joint Assembly

7. Assemble the bearing and bearing mount for the right side of the auger extension. Do not tighten the nuts and bolts yet.

8. Slide the bearing and bearing mount assembly on to the shaft of the auger drum on the right side of the header (marked as #1 on the top down view).

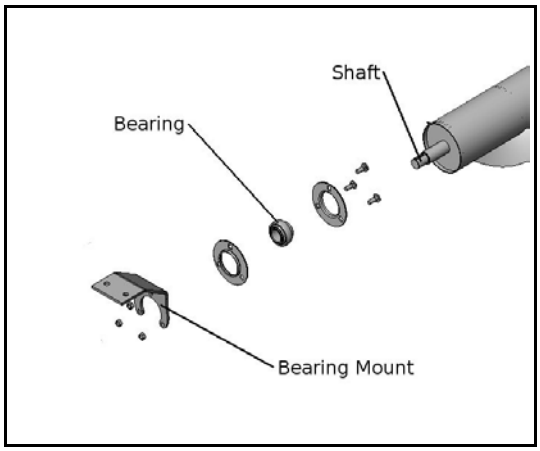


Illustration 19: Bearing Mount Assembly

9. Connect the other side of the universal joint to the center auger extension.

10. Tighten the remaining set screw and bolt on the universal joint.

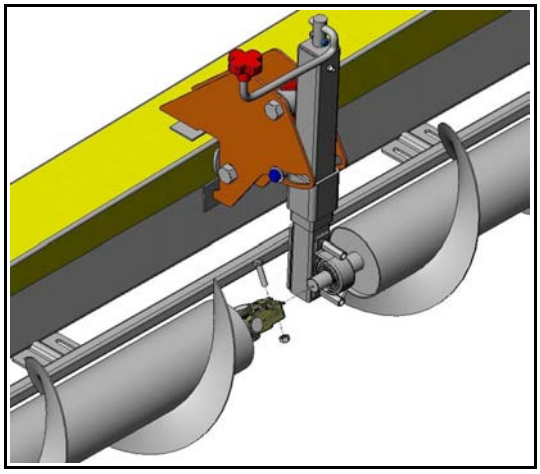


Illustration 20: U-Joint

11. Connect both of the L brackets to the reel arm and the reel arm brace at both ends of the header. Leave all the connections loose until the auger extensions have been attached.

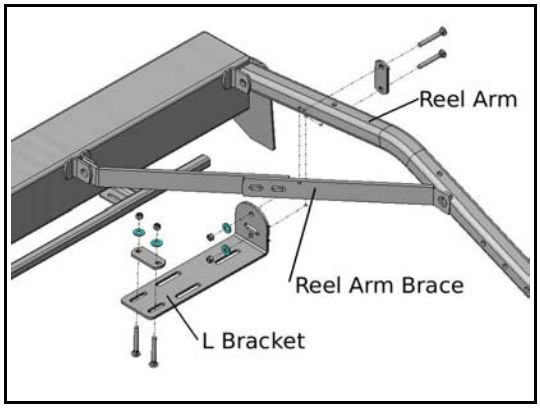


Illustration 21: L Bracket Installation

12. Attach the bearing mount that you had connected to the auger shaft in step 7 to the L bracket on the right side of the header. Leave the bolts loose.

    -The reel arm brace has been removed from this image for clarity.

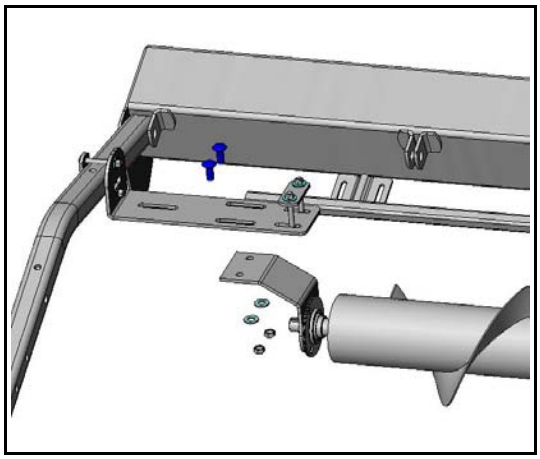


Illustration 22: Bearing Mount Connection

13. Attach the universal joint cover over top of the universal joint that you had previously connected. Make sure that you use washers both behind and in front of the cover.

14. You can now tighten up the L bracket and bearing assembly on the right hand side of the header after making sure everything is lined up.

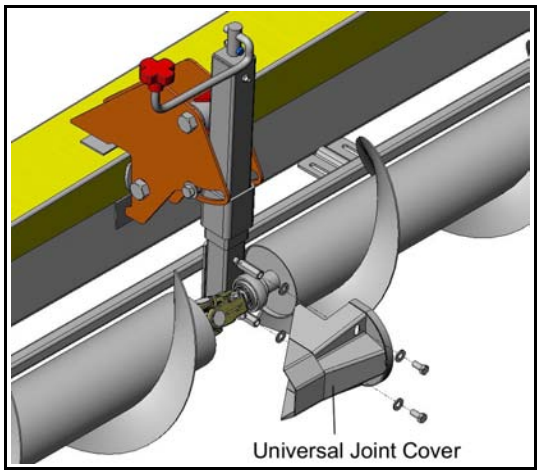


Illustration 23: U-Joint Cover

15. For the remaining auger extension (marked as #3 on the top down view), attach the second universal joint to the shaft pointing towards the center of the header.

16. Tighten the bolt and set screw for the portion of the universal joint that you connected to the shaft.

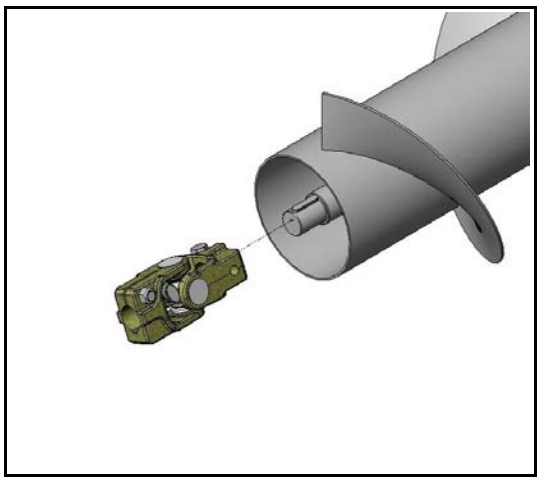


Illustration 24: U-Joint

17. Assemble the motor and it's fittings.
    a. Grease the o-rings and place them in their sockets.
    b. Attach the Manifold Valve to the motor using the 4 cap screws.
    c. Connect the needle valve to the top of the manifold valve.
    d. Screw the 2 nipples into the back of the manifold valve.
    e. Connect the motor to the motor mount using the nuts, washers and bolts provided.

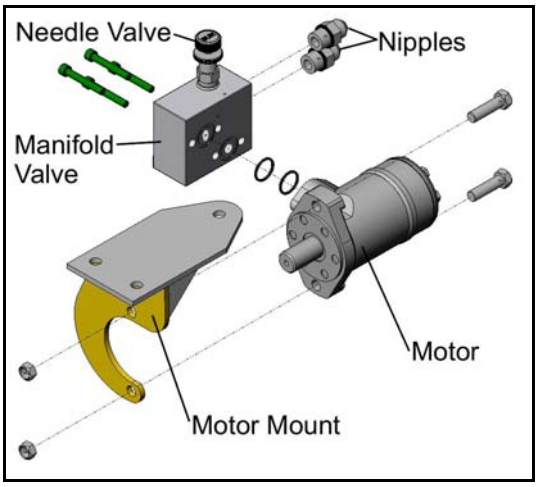


Illustration 25: Motor Assembly

18. Connect the remaining end of the second universal joint to the remaining shaft of the center auger drum.

19. Tighten the last bolt and set screw for the universal joint.

20. Attach the universal joint cover to the spacers, using the bolts and washers provided.

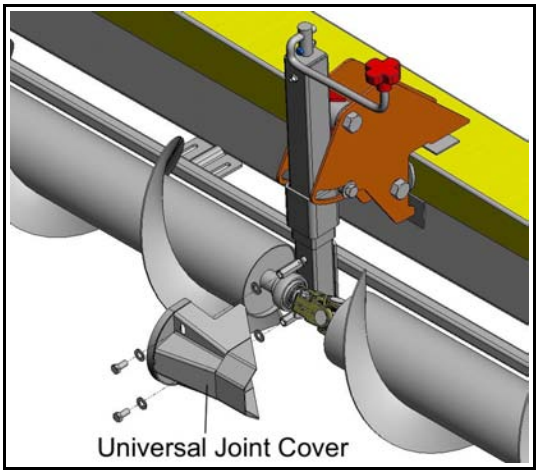


Illustration 26: U-Joint Cover Installation

21. Connect the final universal joint to the shaft of the last auger extension (#3 on the top down view).

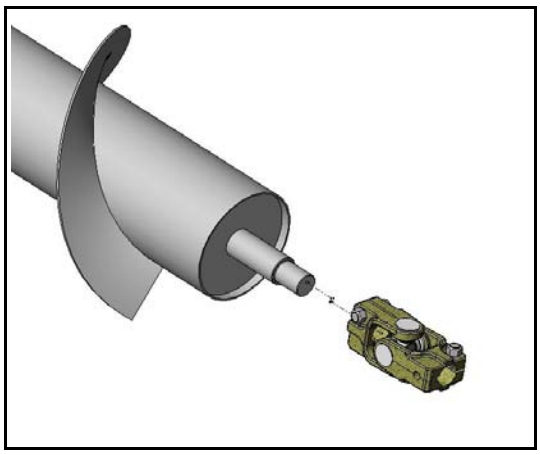


Illustration 27: Final U-Joint Installation

22. Tighten the bolt and set screw on the universal joint.

23. Slide the shield as far as you can over the end of the auger extension. Do not screw into place yet.

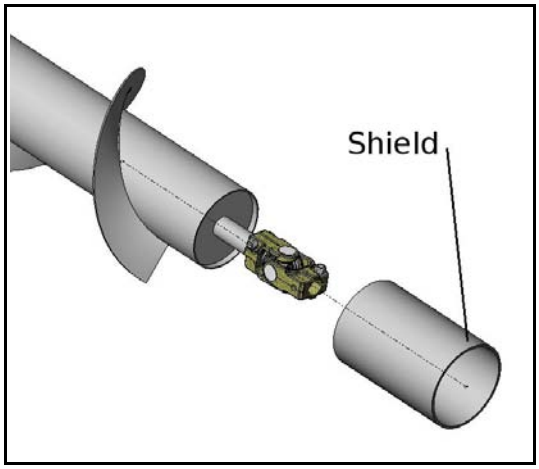


Illustration 28: Initial Shield installation

24. Connect the the motor assembly to the universal joint which you had just attached to the end of the final auger extension (#3 in the top down view)

25. Tighten the last bolt and set screw on the universal joint.

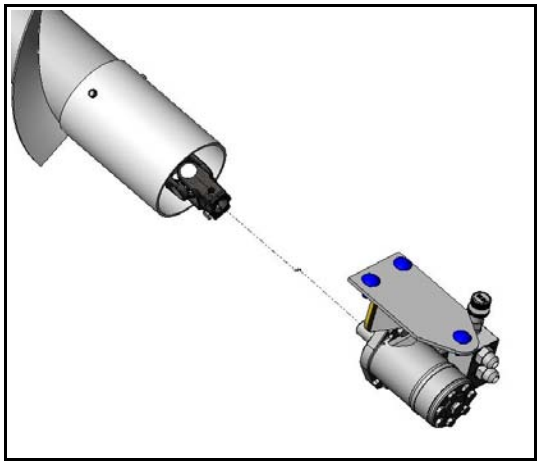


Illustration 29: Motor Assembly Connection

26. Attach everything to the remaining L bracket using the motor mount plate and the nuts, washers and bolts provided.

    -The reel arm brace has been removed from this image for clarity.

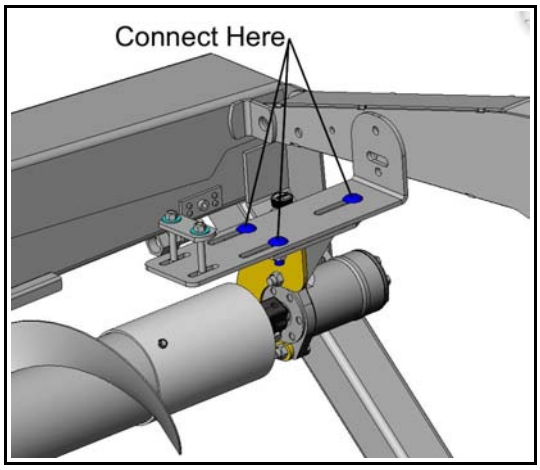


Illustration 30: L Bracket Connections.

27. Slide the cylindrical shield back up towards the motor. Leave approximately 1 inch of space between the shield and the motor mount plate.

28. Drill 3 holes around the circumference of the shield where it overlaps the auger extension.

29. Screw in 3 self tapping screws to hold the shield in place.

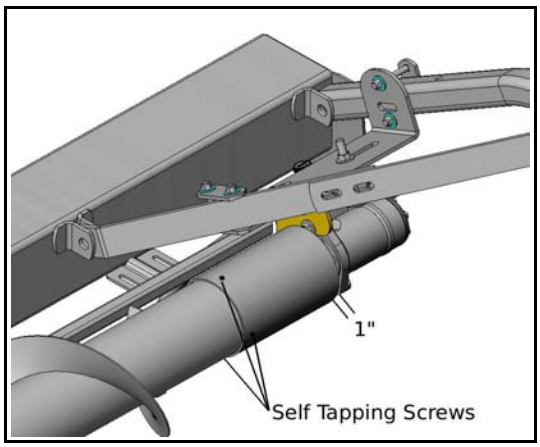


Illustration 31:Final Shield Installation

NOTE:	If you own a single swath machine, proceed to the ***Hydraulic Set Up When Using the Single Swath Option*** on page 18. If you use the double swath option, proceed to the ***Hydraulic Set Up When Using the Double Swath Option*** on page 19.

Hydraulic Set Up When Using the Single Swath Option.

1. Take the power return line from the left hand draper motor located on the back of the header and disconnect it from the steel line.

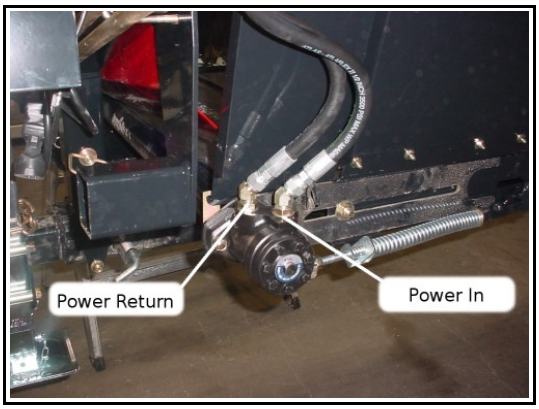


Illustration 32: Draper Motor Connections

2. Take the same power return line that you had disconnected from the draper motor and connect it to the power in port on the cross auger motor.

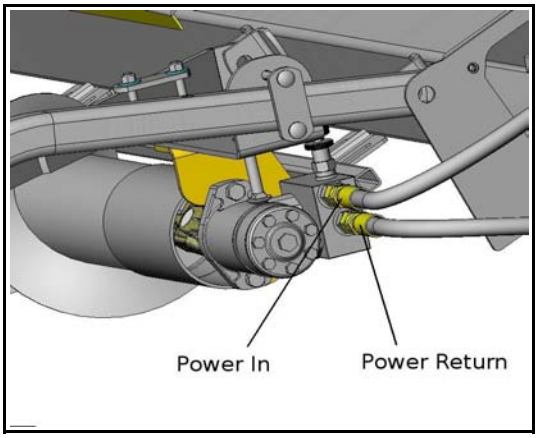


Illustration 33: Cross Auger Motor.

3. Connect the Power return line from the cross auger motor to the power return steel line that had been disconnected on step 1.

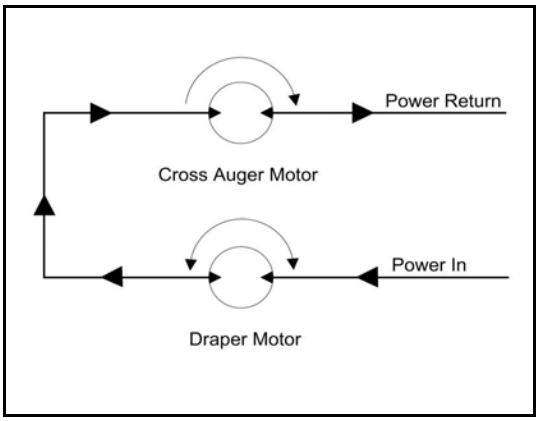


Illustration 34: Basic Hydraulic Schematic

NOTE:	Proceed to the ***Finishing the Installation*** section on page 21

Hydraulic Set Up When Using the Double Swath Option.

With the double swath option, you will sometimes need to move your draper deck. Because the draper motor is connected in series to the cross auger motor, when you move the draper deck, the hydraulic lines connecting the two motors will interfere with the process. To alleviate the problem, you will be required to disconnect the cross auger motor from the hydraulic circuit when shifting the draper deck. To simplify the procedure, you will be provided with 2 quick couplers which will allow you to easily complete the hydraulic circuit using either the draper motor and the cross auger motor or just the draper motor on it's own.

1. Disconnect the hydraulic line from the power in port of the draper motor.
2. Using the fittings supplied, connect the female end of a quick coupler to the power in port of the draper motor.
3. Connect the male end of a quick coupler to the end of the line coming from the power return port of the cross auger motor.
4. Attach one end of the extra hydraulic line provided with the cross auger kit, to the power in port of the cross auger motor.
5. Connect the female end of a quick coupler to the remaining end of the extra hydraulic line.
6. Take the male end of the final quick coupler and connect it to the available end of the hydraulic line that you had disconnected from the power in port of the draper motor in step 1.

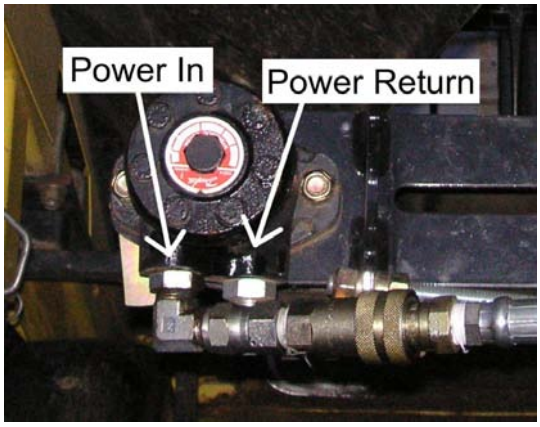


Illustration 35: Draper Motor Quick Coupler

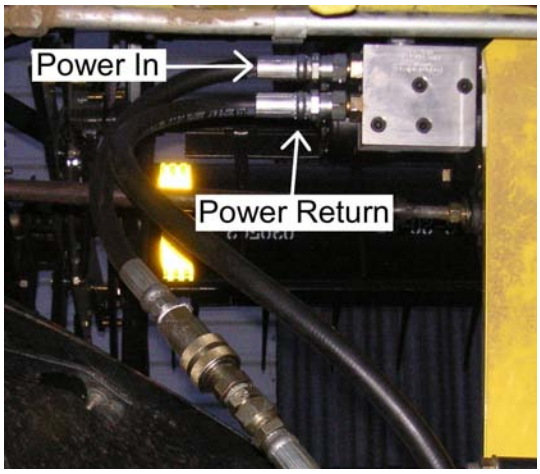


Illustration 36: Auger Motor Quick Coupler

7. When shifting the draper deck, disconnect fittings 1, 2, 3, and 4, then reconnect fitting 1 with fitting 4, and fitting 3 with fitting 2.

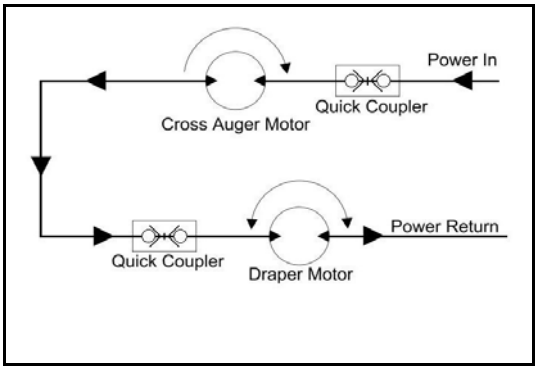


Illustration 37: Double Swath Schematic

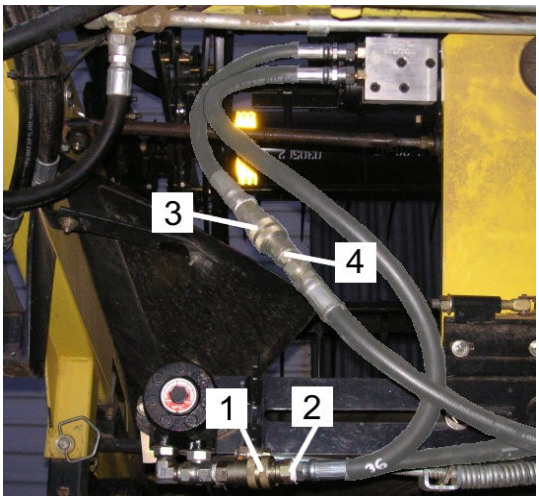


Illustration 38: Quick Coupler Assembly

NOTE:	Proceed to the ***Finishing the Installation*** section on page 21

Finishing the Installation.

1. Fit the narrow sheet metal valance covers in place and mark the points where they contact the U-bolts.

Illustration 39: Valance Cover

2. Cut out half-circles at these marks to provide clearance.

3. Re-fit and secure the panels in place.

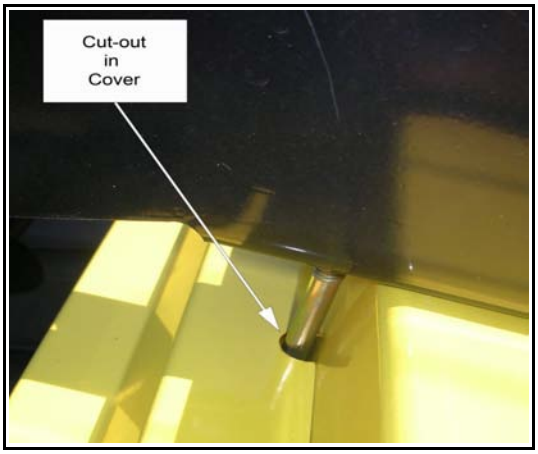


Illustration 40: Valance Cover Cut-Out

4. Open the needle valve slightly, start the combine and test the assembly.

5. Adjust the speed of the cross auger via the needle valve, so that the flighting will move the crop with, or slightly faster than, the drapers. Be prepared to change this setting from time to time, as crop conditions dictate.

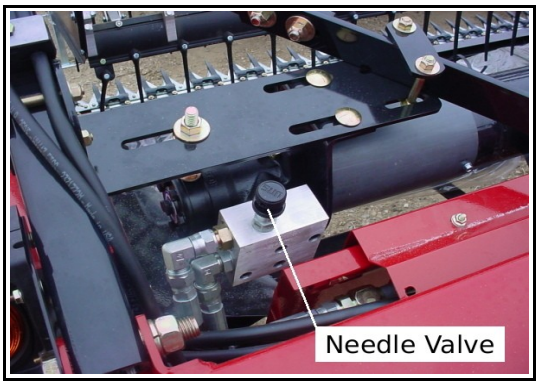


Illustration 41: Needle Valve Location